FERRIS STATE UNIVERSITY

Ferris Graduate Survey Summary 2010-2016*

An overview of student satisfaction data

Dr. Clifton Franklund
General Education Coordinator

Fall 2017

Contents

Abstract

> Assessment is not a spreadsheet; it's a conversation. — Irmeli Halinen

Student satisfaction data from the Ferris post-graduation surveys were compared from the 2010/2011 to 2015/2016 academic years. During this timespan, the response rate has noticeably improved. The lowest return rate (17%) was obtained in 2010/2011 and the highest (27%) was collected in 2015/2016. The average number of responses was 829 per year (approximately 25%) for the time interval covered by this report. The distribution of students by credential and by college was roughly in line with the overall composition of the Ferris student body. Bachelor's and graduate degree students were somewhat over-represented and those in certificate and Associates degree programs were under-represented. Student satisfaction on most Likert scale items was modest and consistent over time. The item with the poorest scores was "how often have you recommended Ferris/Kendall to others". At this time, it is unclear why there is an apparent disconnect between student satisfaction and recommendation. Some thought questions are posed to stimulate discussion and lead to a deeper analysis of these graduate attitudes.

*Report number 1703, DOI 10.17605/OSF.IO/YPCQD

Ferris State University

Introduction

Each year, Ferris State University performs surveys to obtain information related to student satisfaction, job placement, and any further academic achievements of its graduates. Annual reports are generated and are available online. The goal of this report is to compare the data collected in the surveys given since our last HLC accreditation visit. Special attention is given to identify any strengths, weaknesses, or developing trends. These findings may be of some use as we begin to prepare for our next accreditation visit.

Methods

Data collection

All of the original graduate surveys used in this report are stored in the rawData folder of the related RStudio project. These files were used to create three separate working data files, which are stored in the data folder. These files are as follows:

- grad_survey_colleges.csv
  - Year = academic year of survey
  - College = two-letter abbreviation of the academic college
  - responses = number of valid student responses
- grad_survey_degrees.csv
  - Year = academic year of survey
  - Degree = academic credential earned
  - responses = number of valid student responses
- grad_survey_questions.csv
  - year = academic year of survey
  - item = the question number from the survey
  - level0 = number of non-responses
  - level1 = number of students selecting the lowest possible score
  - level2 = number of students selecting the second lowest score
  - level3 = number of students selecting the second highest score
  - level4 = number of students selecting the highest score

The actual numbers of graduates by college and by academic credential awarded were derived from information in the Ferris Factbooks. These resources are also available online. The numbers used in this report were taken from the 2012/2013 and 2016/2017 Factbooks. A pdf version of each of these is also available in the rawData folder. This information was used to prepare two more data files (each in the data folder):

- factbook_colleges.csv
  - Year = academic year of survey
  - College = two-letter abbreviation of the academic college
  - responses = number of graduates in the college
- factbook_degrees.csv
  - Year = academic year of survey
  - Degree = academic credential earned
  - responses = number of graduates earning the credential

Finally, student satisfaction data from the National Survey of Student Engagement (NSSE) were obtained. This subset of NSSE data can also be found in the data folder:

- NSSE_satisfaction.csv
  - Year = Year that the NSSE was administered
  - Class = Class standing (freshman or senior)
  - 1. Definitely No = Percent of students responding

- 2. Probably No = Percent of students responding
- 3. Probably Yes = Percent of students responding
- 4. Definitely Yes = Percent of students responding

Data provenance

Data provenance refers to a system that permits tracking of the origin, movement, modification, and utilization of data sets (Buneman et al., 2001). The provenance of General Education data will be explicitly declared to facilitate the reproducibility and extensibility of these studies.

Location of public website files

All files related to this report can be found online at the Open Science Framework (Nosek, 2012). This site contains all of the files and instructions needed to reproduce this report from the de-identified data set. The site's url is https://osf.io/YPCQD/.

Session information

This report was written using RStudio (RStudio Team, 2015) and the R statistical programming language (R Core Team, 2013). These products are free to download for PC, Macintosh, and Linux operating systems. The following information pertains to the session parameters used to generate this report. If you have trouble reproducing this report, it may be due to different session parameters. You may contact Dr. Franklund if you need assistance.

R version 3.4.3 (2017-11-30)

Platform: x86_64-apple-darwin15.6.0 (64-bit)

locale: en_US.UTF-8||en_US.UTF-8||en_US.UTF-8||C||en_US.UTF-8||en_US.UTF-8

attached base packages: stats, graphics, grDevices, utils, datasets, methods and base

other attached packages: bindrcpp(v.0.2), pander(v.0.6.1), RColorBrewer(v.1.1-2), ggplot2(v.2.2.1), dplyr(v.0.7.4), plyr(v.1.8.4), tidyr(v.0.8.0) and readr(v.1.1.1)

loaded via a namespace (and not attached): Rcpp(v.0.12.15), rstudioapi(v.0.7), bindr(v.0.1), knitr(v.1.19), magrittr(v.1.5), hms(v.0.4.1), munsell(v.0.4.3), colorspace(v.1.3-2), R6(v.2.2.2), rlang(v.0.1.6), stringr(v.1.2.0), tools(v.3.4.3), grid(v.3.4.3), gtable(v.0.2.0), xfun(v.0.1), htmltools(v.0.3.6), lazyeval(v.0.2.1), assertthat(v.0.2.0), yaml(v.2.1.16), rprojroot(v.1.3-2), digest(v.0.6.15), tibble(v.1.4.2), bookdown(v.0.6.2), purrr(v.0.2.4), glue(v.1.2.0), evaluate(v.0.10.1), rmarkdown(v.1.8), stringi(v.1.1.6), compiler(v.3.4.3), pillar(v.1.1.0), scales(v.0.5.0), backports(v.1.1.2) and pkgconfig(v.2.0.1)

Processing instructions

This project produced a computationally reproducible assessment report (this document). Anyone wishing to recreate this report from the source document will need to install the following on their computer:

1. An installation of the R programming language
2. An installation of the RStudio IDE
3. An installation of LaTeX

The necessary instructions for using these tools are given on the OSF site in the project wiki.

Citation of this work

Results and Discussion

The response rates and their overall composition were compared for the six academic years under investigation. Responses to seven of the more quantitative questions (numbers 1, 2, 3, 4, 21, 22, and 23) were also examined. In general, student satisfaction is fairly consistent, if perhaps a bit low. A more complete examination of each comparision is provided below.

Response rate by year

Student response rates for the graduation survey have generally been sufficient over the past six years to allow generalizations to be drawn for the entire population of Ferris graduates. Figure 1 shows the total number of alumni responses collected each academic year. The fewest responses, 524, were collected in 2010/2011 (17% response rate). There has been a steady improvement in response rate since that time. The overall average response rate was 829 per year for the interval investigated (approximately a 25% overall return rate). Samples of this size ought to give estimates with a margin or error between two and four percent.

> Is a response rate of under 30% adequate? What should our target reponse rate be for this instrument? What can be done differently to increase our response rate further?

Response rate by degree earned

In order to reliably generalize the findings of these surveys, the demographics of the survey population should also be similar to that of the overall student body at Ferris State University. Therefore, the percent of respondants by credential earned were compared to the percent of actual credentials earned for each year under study, Figure 2 shows the actual distribution of credentials awarded by Ferris for each of the past six years.

In comparison, Figure 3 illustrates the distribution of credentials earned by the survey respondants. It is readily apparent that Bachelors and Graduate (Masters, Doctoral, and Professional) degrees are over-represented in the survey population. On the other hand, Associates degrees and certificates are under-represented. This reporting bias should be kept in mind while interpreting the survey responses that follow.

> Do you think that the bias for Bachelor and Graduate degrees is problematic? What steps can we take to ensure better reporting from students in Associates degrees and certificate programs?

Response rate by college

Another potential bias could be in the balance of students from various academic colleges. If one or more colleges predominate the survey population, they could skew the results and make interpretation more difficult. The actual distribution of graduates by academic college are shown in Figure 4.

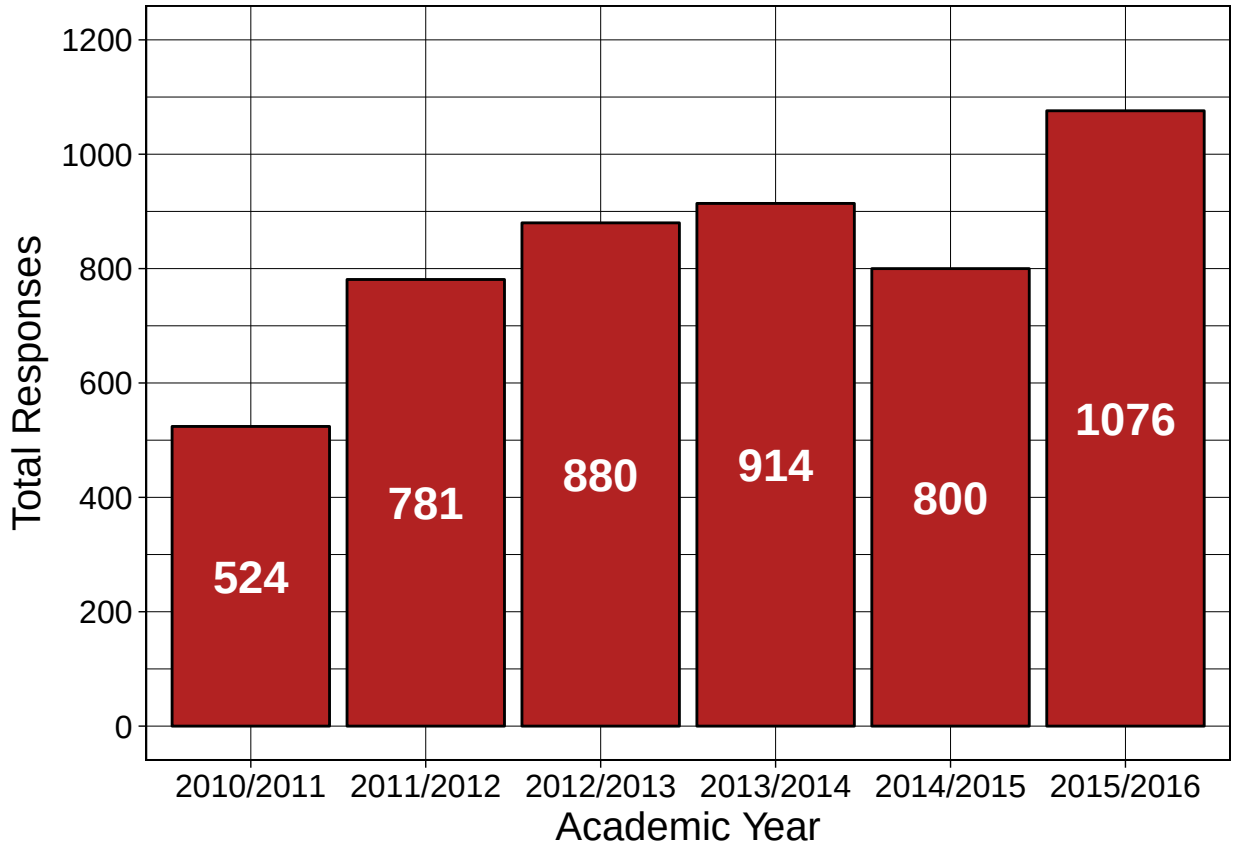

Figure 1: Total number of student survey responses per academic year

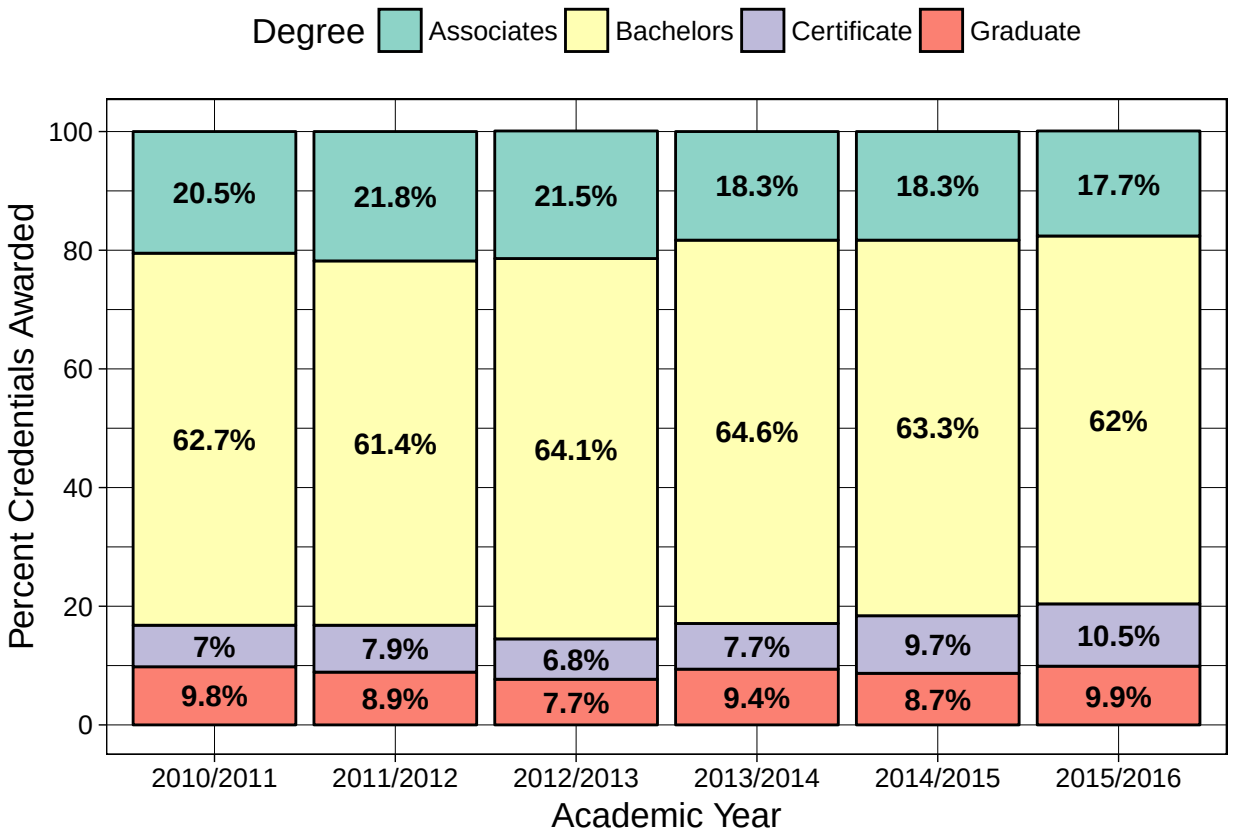

Figure 2: Distribution of credentials awarded by Ferris per academic year

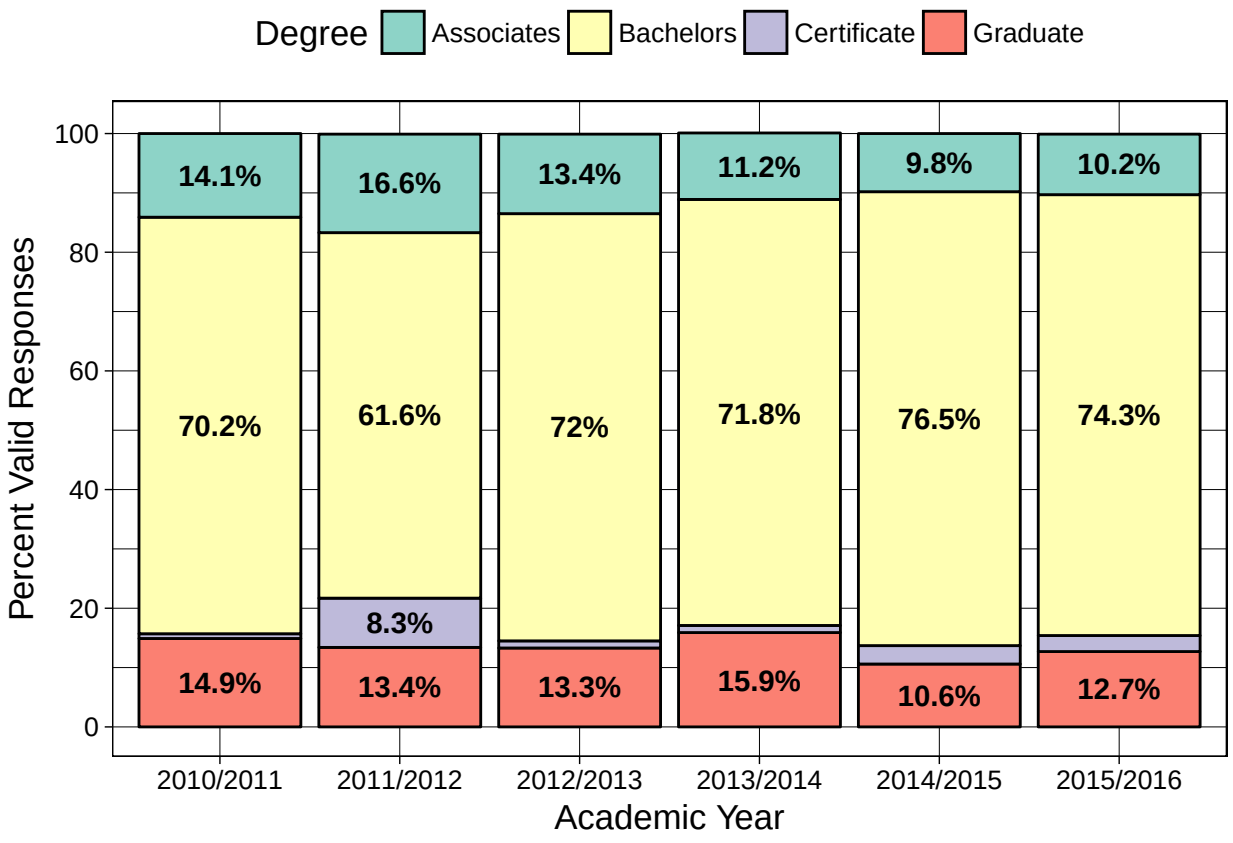

Figure 3: Percent of student survey responses by degree earned per academic year

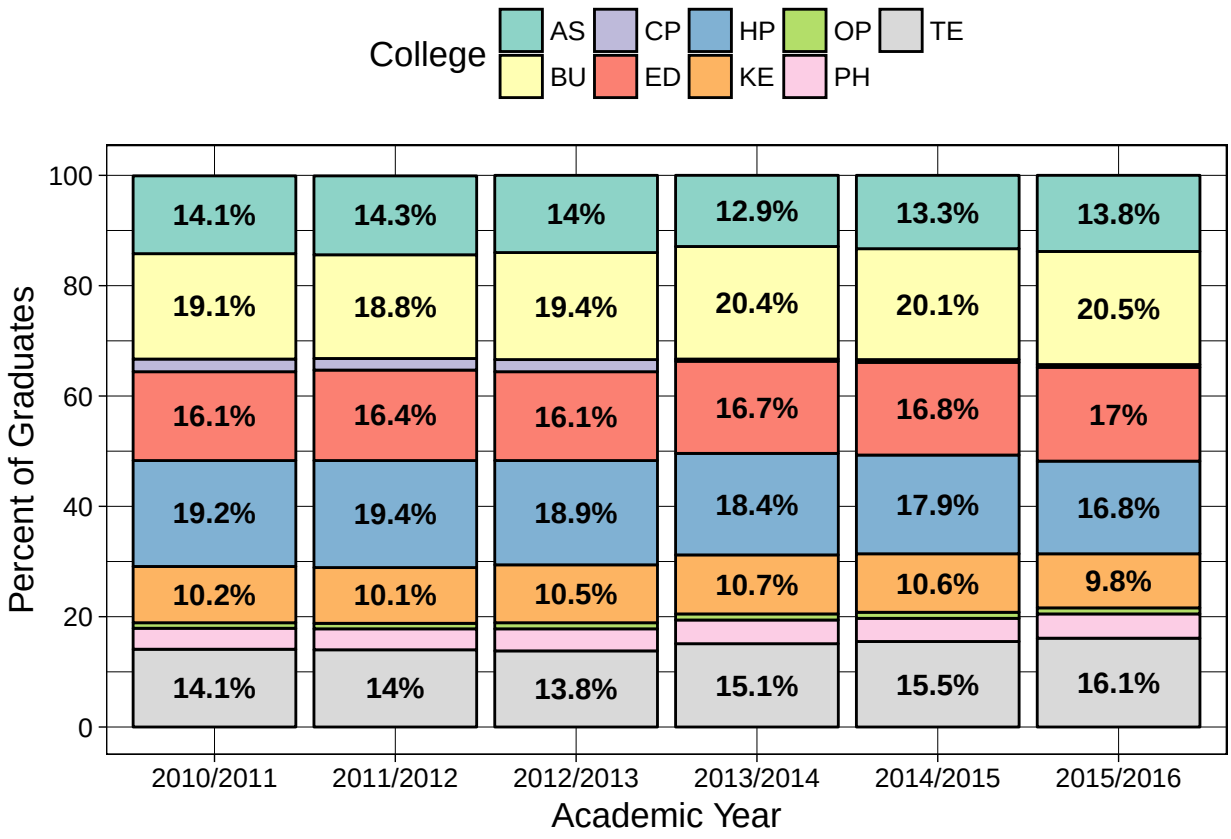

Figure 4: Distribution of graduates by academic college per academic year

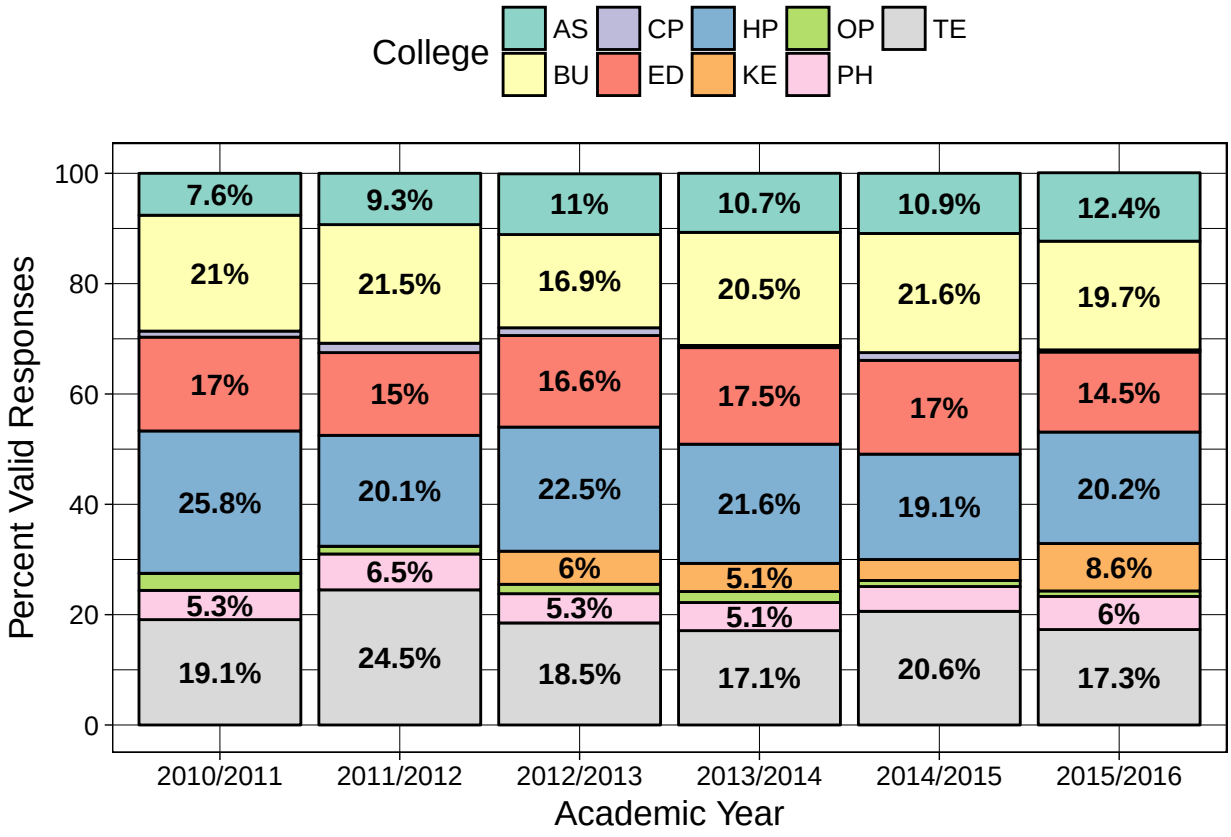

Figure 5: Percent of student survey responses by academic college per academic year

Figure 5, in contrast, demonstrates the distribution of survey respondants by academic college. The first thing that is apparent is that Kendall College of Art and Design (KCAD) was not included in the 2010/2011 and 2011/2012 datasets. The colleges of Business and Health Professions are slightly over-represented. KCAD, on the other hand, remains somewhat under-represented. The overall proportions are reasonably similar and stable over time. Given these facts, the last four years of data are probably representative enough to make some valid generalizations.

Do you think that any effort needs to be made to get more representative sampling?

Overall satisfaction ratings

The overall satisfaction of survey respondants was obtained by from item 1 of the survey: I am satisfied with the quality of education that I recieved at Ferris State University/Kendall College of Art and Design. The mean number of positive responses over the past four years was 92.55%. The trends for responses to this item are shown in Figure 6. The ratio of respondants that “strongly agree” to “somewhat agree” was 1.62:1. These results seem to represent a fairly high level of overall satisfaction among our responding graduates.

Do you think that this level of overall satisfaction is sufficient? Or, is there a need to substantially increase this level?

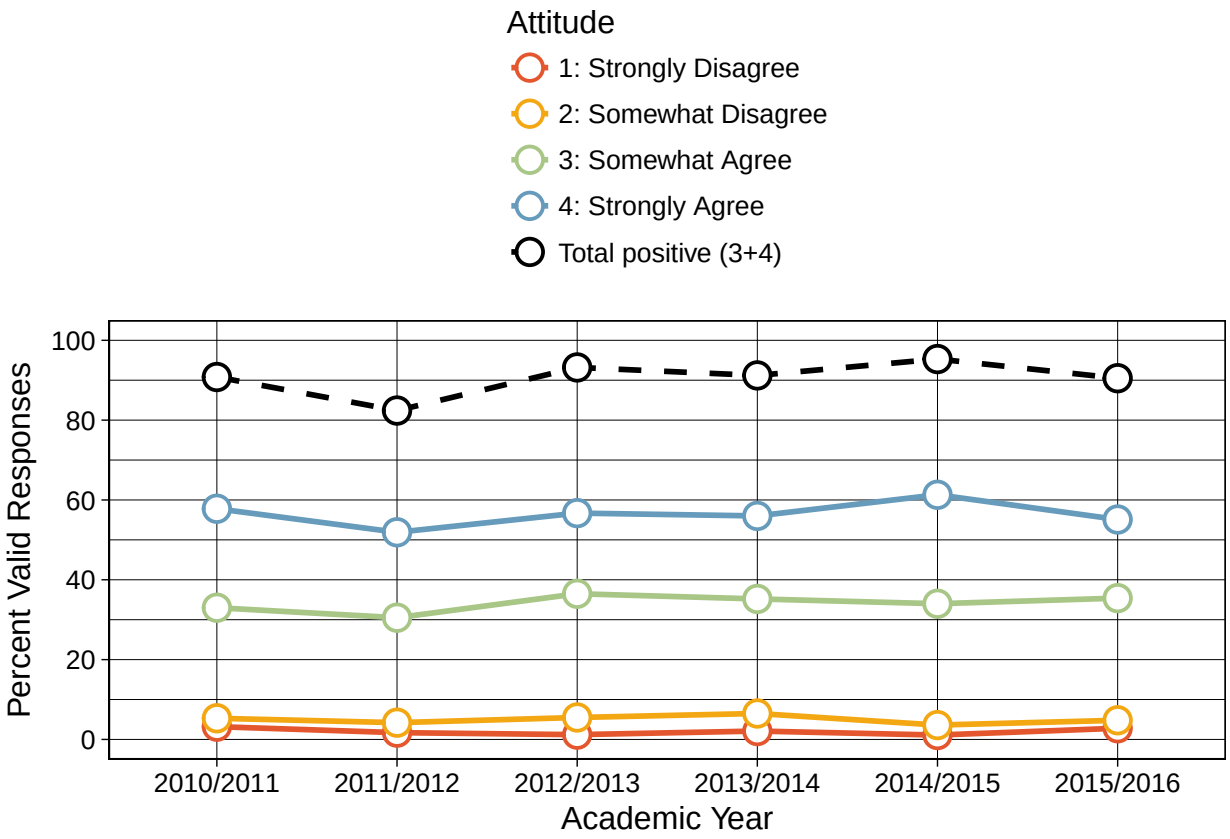

Figure 6: I am satisfied with the quality of education that I received at FSU/KCAD.

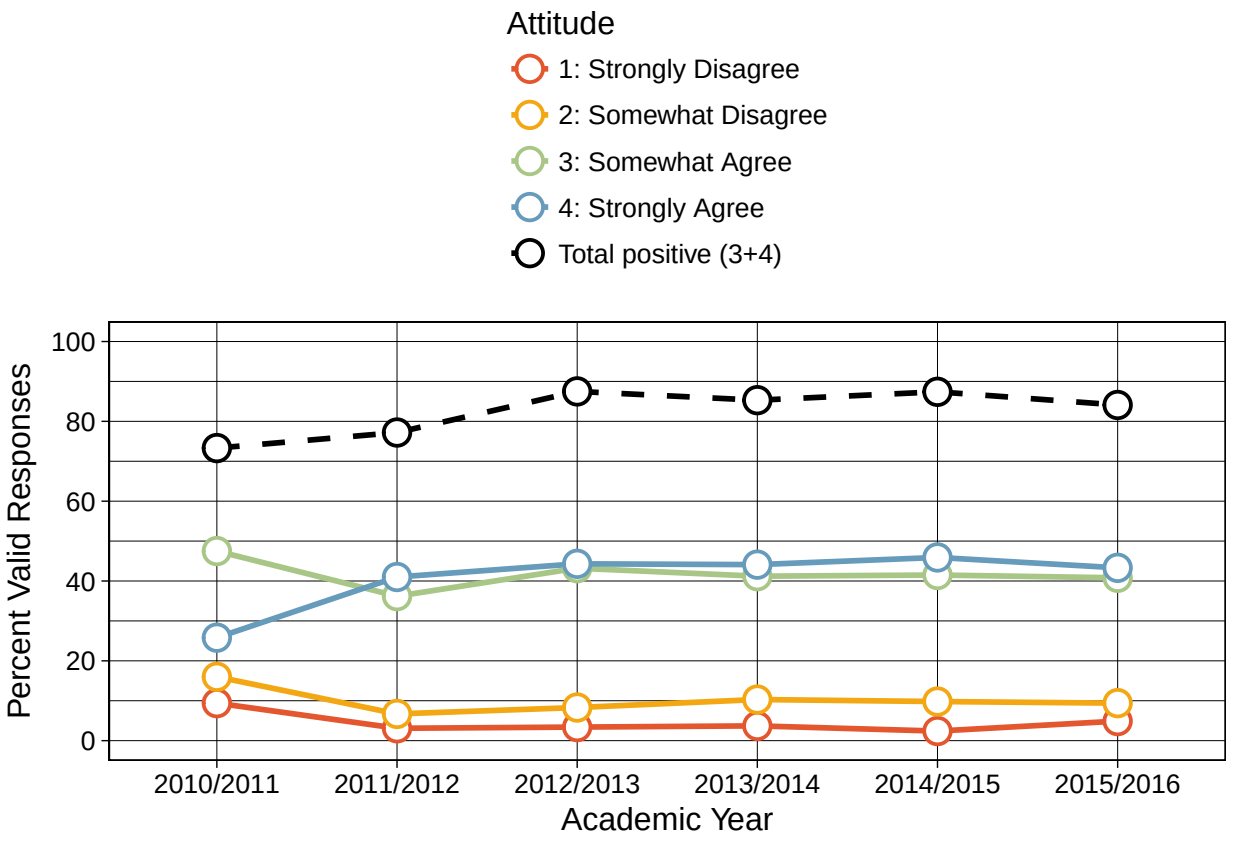

Figure 7: FSU/KCAD prepared me well for employment.

Preparation for employment

Item two on the survey was Ferris State University/Kendall College of Art and Design prepared me well for employment. The graduate responses are illustrated in Figure 7. For this item, the ratio of respondants that "strongly agree" to "somewhat agree" was 1.07:1. The overall number of positive responses over the past four years was 86.08%. These results are somewhat lower than those for item one, but are fairly stable over time.

> One out of seven graduates did not feel that FSU/KCAD prepared them well for employment. Is this a problem? What can we do to learn more about these unsatisfied graduates?

Preparation for continuing education

The third item of the survey was Ferris State University/Kendall College of Art and Design prepared me well for continuing my education. The graduate responses are illustrated in Figure 8. For this item, the ratio of respondants that "strongly agree" to "somewhat agree" was 1.04:1. The overall number of positive responses over the past four years was 86.8%. These results are nearly the same as those of item two. Given that Graduate and Bachelors degree recipients are over-represented in our sample, these numbers are perhaps a bit low.

> One out of seven graduates were not satisfied with their preparation for their continuing education. How can we identify any issues or problems so that they can be addressed?

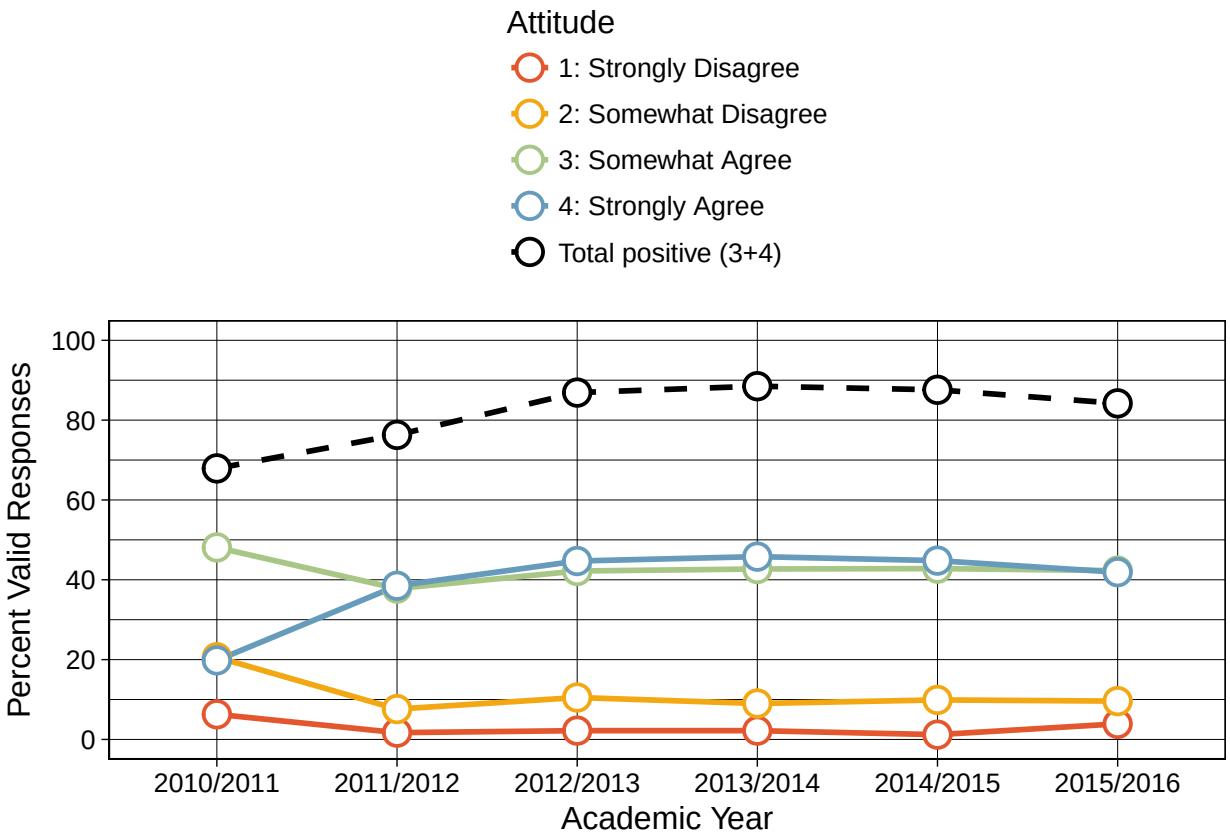

Figure 8: FSU/KCAD prepared me well for continuing my education.

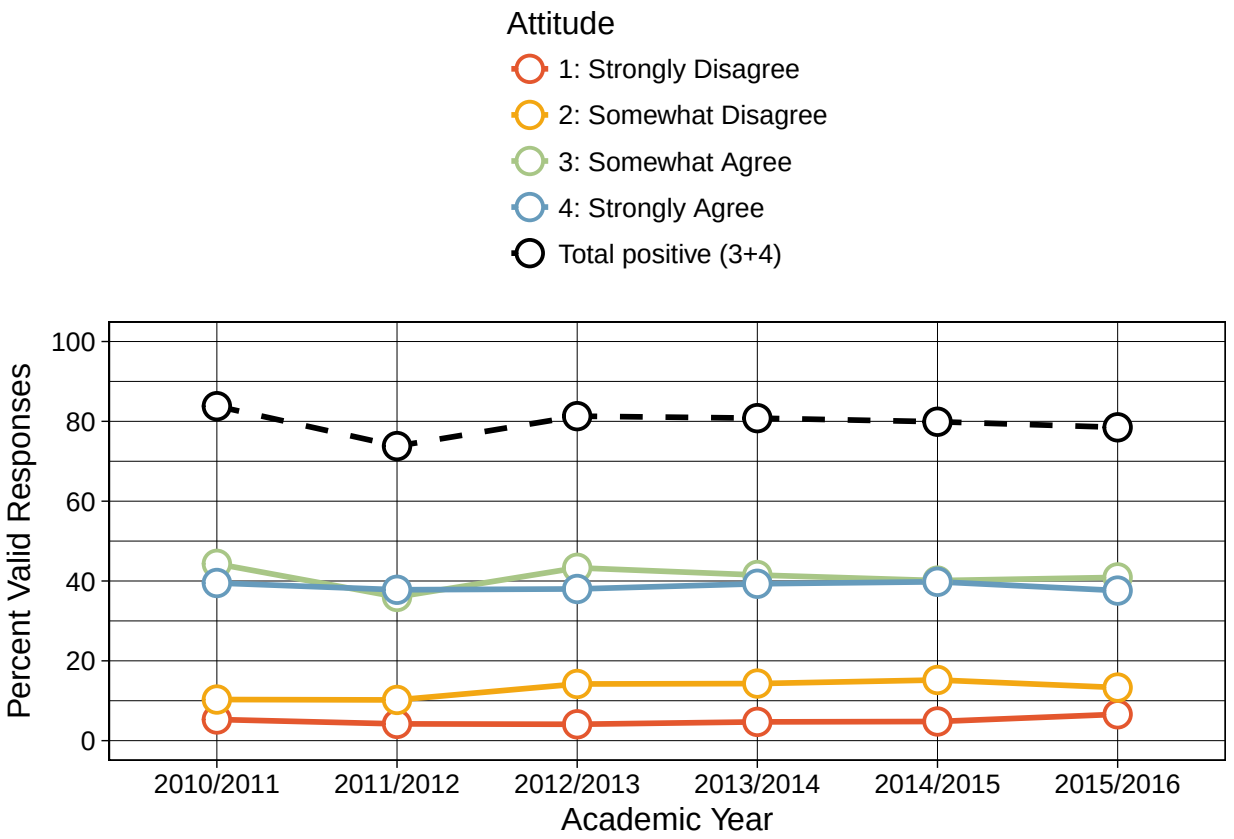

Figure 9: FSU/KCAD was a good value for my money.

Good value for the money

The cost of higher education has continued to increase over the past decade. It is interesting to see if this increase has impacted students' perceptions regarding the value that they get for their money. Item four on the survey was Ferris State University/Kendall College of Art and Design was a good value for my money. The graduate responses are illustrated in Figure 9. For this item, the ratio of respondants that "strongly agree" to "somewhat agree" was 0.93:1. The overall number of positive responses over the past four years was 80.12%.

> One out of five graduates does not feel that they got a good value for their money from FSU/Kendall. While it is not surprising that this value is lower, what can we do to increase the value that students perceive from their education at FSU/KCAD?

Recommendation of Ferris/KCAD

Our graduates are probably the best advertisement that we have for our institution. Item twenty-one addresses this and it phrase as Since graduating, how often have you recommended FSU/KCAD to prospective students? The graduate responses are illustrated in Figure 10. For this item, the ratio of respondants that recommended Ferris "often" to "a few times" was only 0.55:1. The overall number of positive responses over the past four years was 50.05%. This is by far the lowest score for all the items on the survey.

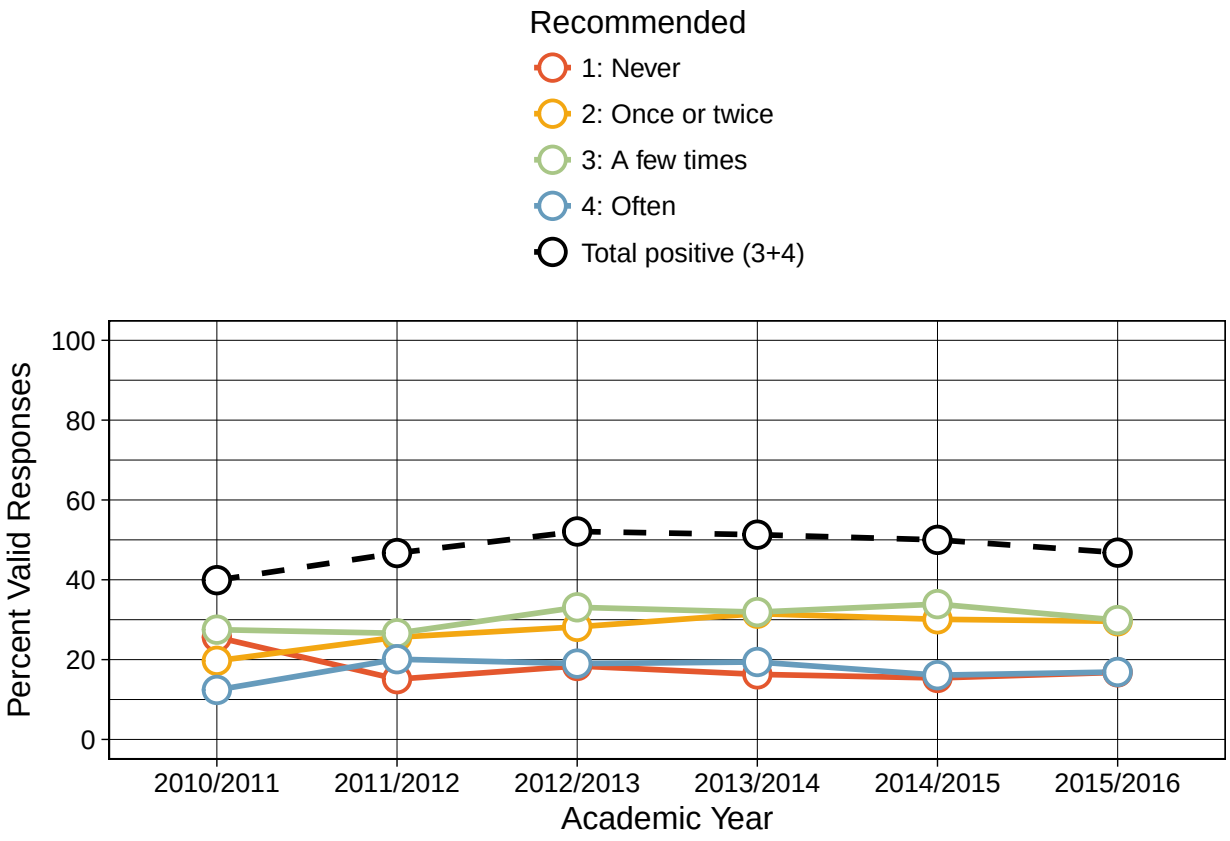

Figure 10: Since graduating, how often have you recommended FSU/KCAD to prospective students?

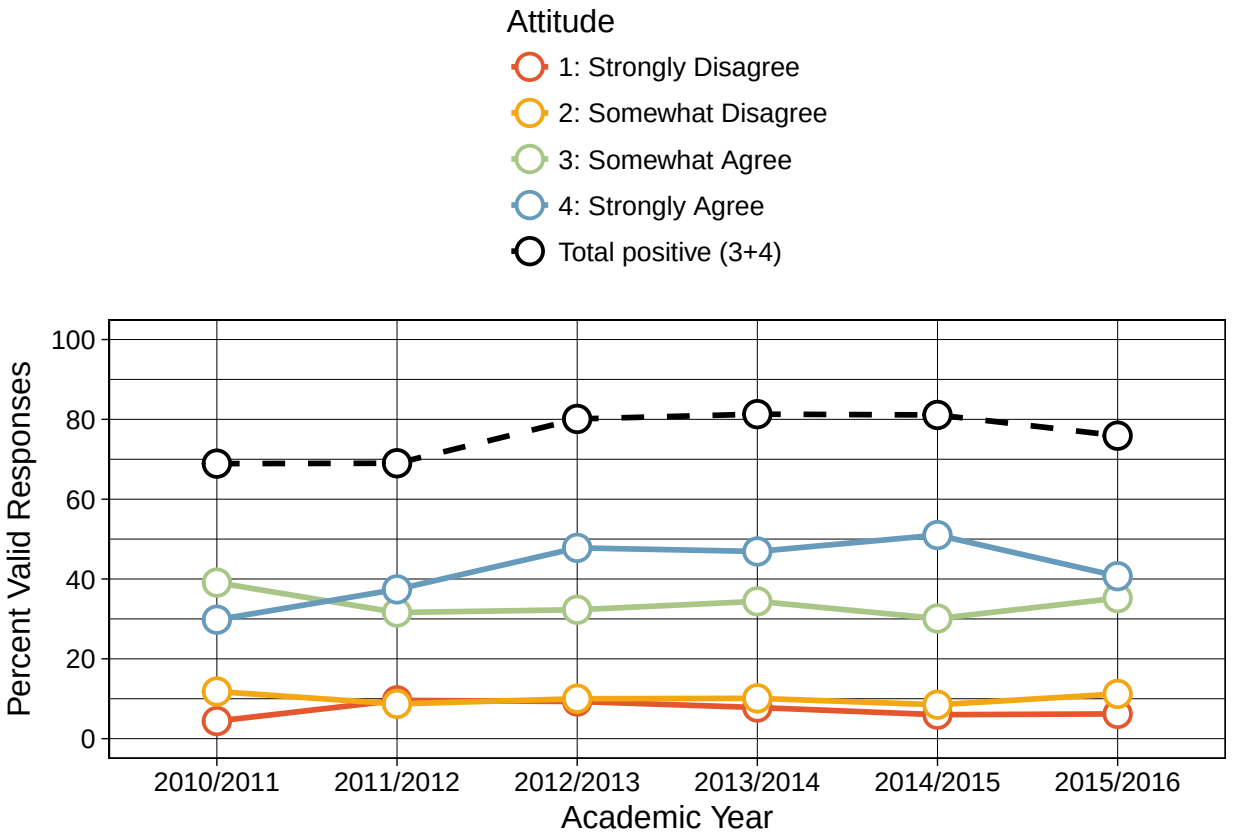

Figure 11: If I had the opportunity to start college over, I would still choose to attend FSU/KCAD.

> Only half of all respondants indicated that they recommended FSU/KCAD to others very often. What do you think accounts for the apparent discrepancy between satisfaction and recommendation? What can we do to encourage our graduates to recommend FSU/KCAD more in the future?

Would choose FSU/KCAD again

Item twenty-two also indicates satisfaction with Ferris State University and/or Kendall College of Art and Design overall. It was worded as If I had the opportunity to start college over, I would still choose to attend Ferris State University/Kendall College of Art and Design. The graduate responses are illustrated in Figure 11. For this item, the ratio of respondants that "strongly agree" to "somewhat agree" was 1.41:1. The overall number of positive responses over the past four years was 79.6%.

A very similar item also appears in the National Survey of Student Engagement (NSSE). It was worded as If you could start over again, would you go to the same institution you are now attending? The responses for freshmen and seniors taking the NSSE are illustrated in Figure 12. These NSSE scores are similar to those of the graduate surveys, but seem to have a more negative trend over time.

> One out of five graduates state that they would not attend FSU/KCAD if they had it all to do over again. The NSSE results are even a bit worse. How can we identify and address the factors that contribute to this dissatisfaction?

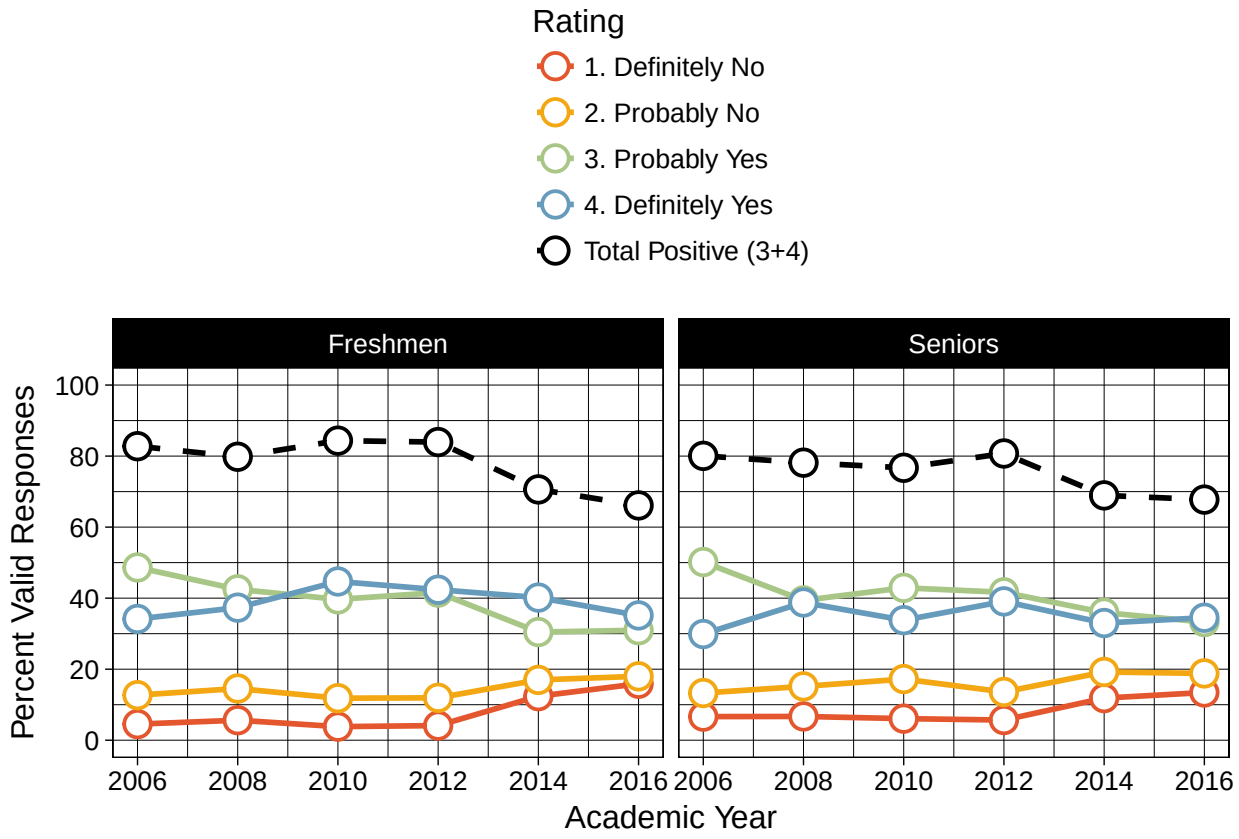

Figure 12: If you could start over again, would you go to the same institution you are now attending?

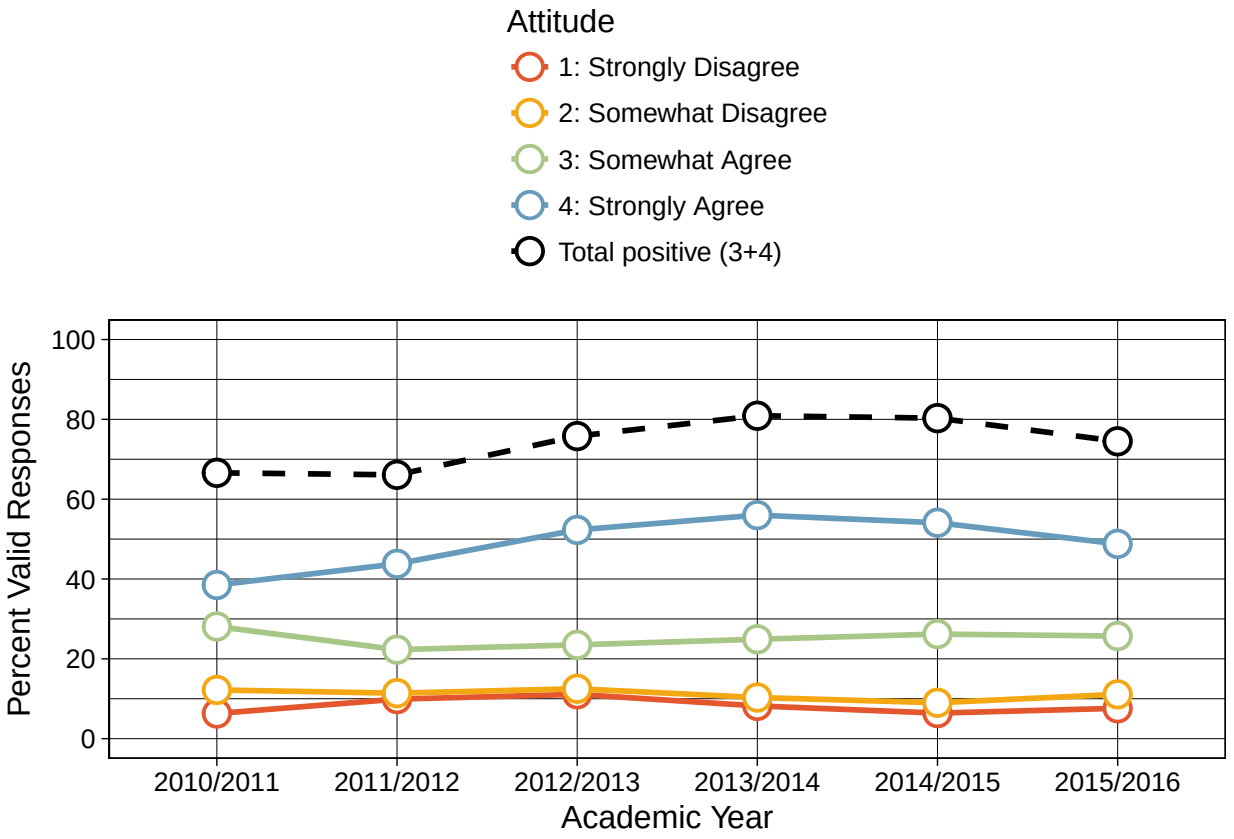

Figure 13: If I had the opportunity to start college over, I would still choose the same program of study.

Would choose the same program again

Many students come to Ferris specifically for a particular program. As a result, these students often have more affinity for their program than they do to the overall institution. The last item evaluated (item twenty-three) addresses this as If I had the opportunity to start college over, I would still choose the same program of study. The graduate responses are illustrated in Figure 11. For this item, the ratio of respondants that "strongly agree" to "somewhat agree" was 2.11:1. The overall number of positive responses over the past four years was 77.88%. The overall score for programs is actually lower than for the entire instituation (by a little). The ratio of "strongly agree" to "somewhat agree", though, is much higher.

> Despite our strong academic programs, one out of five graduates would not consider choosing their program again. What can we do to identify the causes of this dissatisfaction? There is most likely a correlation between items 22 and 23. Do you think that one impacts the other? If so, in which direction does that causal link fall?

References

Buneman, P., Khanna, S., and Wang-Chiew, T. (2001). Why and Where: A Characterization of Data Provenance, pages 316–330. Springer Berlin Heidelberg, Berlin, Heidelberg.

Nosek, B. (2012). An Open, Large-Scale, Collaborative Effort to Estimate the Reproducibility of Psychological Science. Perspect. Psychol. Sci., 7(6):657–660.

R Core Team (2013). R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria.

RStudio Team (2015). RStudio: Integrated Development Environment for R. RStudio, Inc., Boston, MA.